THE MARINE RECORD

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

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THE LOSS OF THE MISSOULA.

(ILLUSTRATED.)

Considerable surprise was admitted in active vessel circles Thursday evening when the news reached Capt. Thomas Wilson, owner of the steamer Missoula, that the missing boat had foundered. The general impression was that she had been disabled and had drifted out of the usual courses of vessels, and would turn up all right. Capt. Wilson had shared this belief, but his financial loss was more than eclipsed, in his eyes, by the news that the crew were all saved Some of the men had very close calls, however, and none of them care to repeat the experiment. The protest filed by Capt. William Williams and attested to by the crew, states that at 5:30 o'clock on the evening of Friday, November 1, the shaft broke outside the aftermost inside stern bearing, but the engine was stopped without further damage occurring. The lights of a steamer were sighted about 7 o'clock and a bonfire was made to attract her attention, but without success. The Missoula fell into the trough of the sea and rolled, but was in good trim until the wind shifted to the south and a gale began to blow about 2 o'clock Saturday morning. The ship labored hard, and Capt. Williams put out bags of oil, and let go an anchor with 90 fathoms of chain; but she began leaking and gained on the pumps at the rate of two feet an hour. The water filled the lower hold until the steamer listed to port so far that her hatch gave way. The boats were launched with difficulty, and one of them, containing the provision, being capsized; the crew finally got away, and landed on Michipicoten Island, whence they afterward sailed for the Lizard Islands, being 60 hours without food. The steamer sank half an hour after she was abandoned.

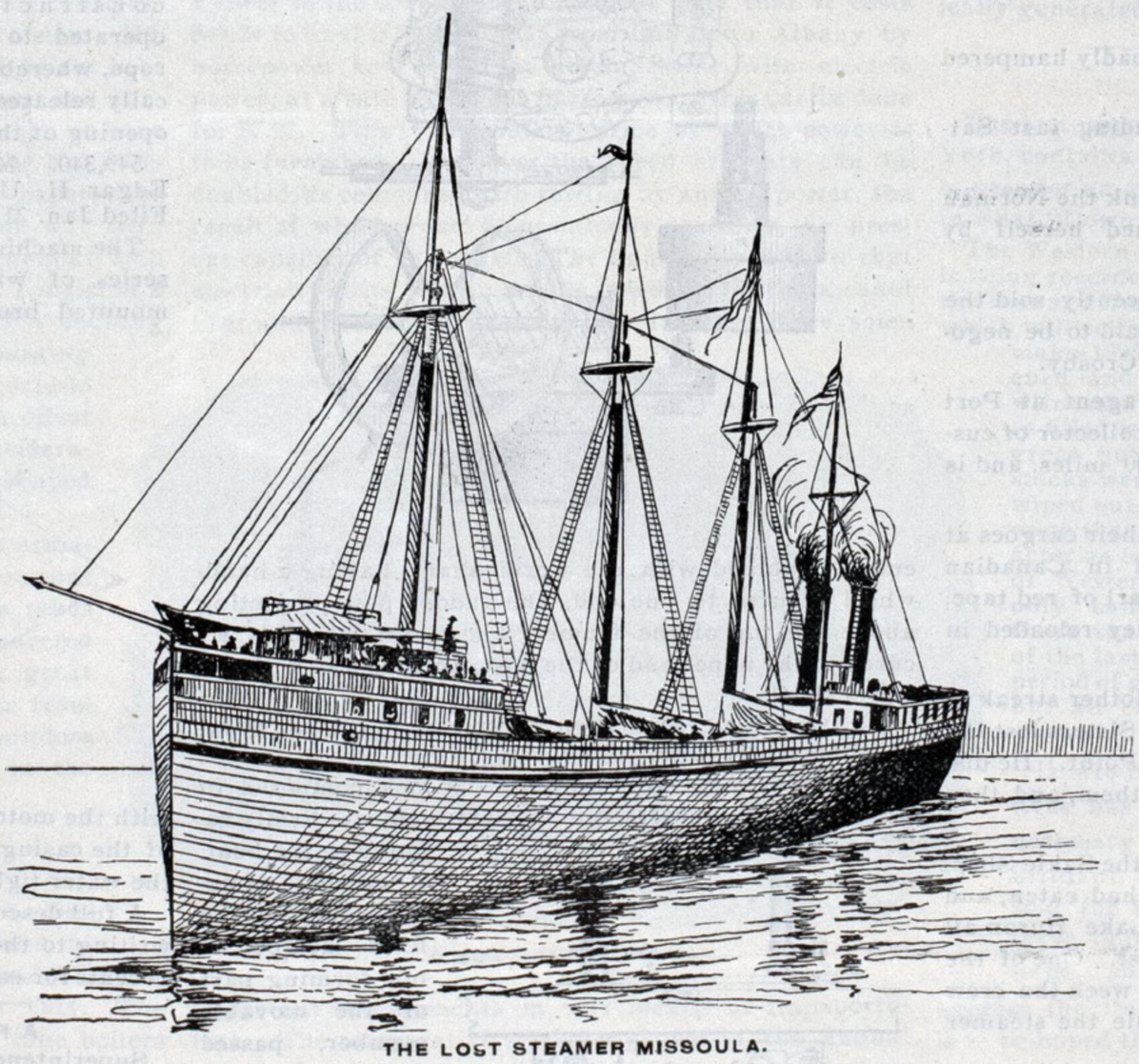
The Missoula was built to Capt. Wilson's order by the Quayles in 1887. She had always been kept in the best possible shape, and rated A1½ in Inland Lloyds, with $95,000 valuation. The insurance was $50,000. The Missoula's capacity was about 2,400 tons on 16 feet draft. She has earned a large amount of money in her day and has never been run at a loss. On the other hand, her owners have lost her earnings for at least three trips with a 6c freight, which would have netted them several thousand dollars in addition to what they have lost in the uninsured portion.

CAPT. FRIETSCH ALL RIGHT.

Word was received by the family of Capt. Adolph Frietsch, of Milwaukee, a few days ago that the little sloop Nina, in which he sailed from Milwaukee to Norway, had been lost in a storm off the Firth of Clyde in October and that Capt. Frietsch had saved himself by swimming ashore. This has been contradicted by a letter just received from him dated Liverpool, October 29, in which he stated that he had encountered a heavy storm October 2, but brought his vessel safe into port, although boats near his were wrecked. He proposed to send the Nina to the United States on a steamer.

TO AVERT COLLISION IN FOG.

An experiment of very great interest and importance to shipping is being made on the London and Chatham steamers crossing between Dover and Calais, with a view to reducing the risk of collision at sea in fog at night. Some preliminary experiments have been made in the mail packet Calais Douvres. An electric search light of suitable make has been fixed in the forepart of the ship in front of the fore funnel where the fog signals are sounded. When a blast is given on the fog whistle the search light is used to flash a powerful vertical beam of light into the air. This is due to the observations of Captain Dain, one of the most experienced commanders on the sea, who is also directing his attention to a system of day signalling. The other steamers are to be fitted with the light.—Newcastle, Eng., Leader.



THE LOST STEAMER MISSOULA.

THE FREICHT SITUATION.

The grain trade, which has usually a very bullish effect on lake freights at this time of year, is just now an element of weakness, in view of the fact that the tight blockade at Buffalo, which is daily growing worse, is driving the boats pell mell out of the Lake Superior grain trade at 6c into the ore trade at $2. The latter rate holds its own well, in spite of the onslaught, however, although ore shippers claim to be cleaning up, and are really doing so in many cases. It is hoped by many that the blockade will prove to be only temporary, and that the ore rate will not be affected. Present rates at the head of Lake Superior, however, are so much ahead of the Escanaba rate, which has fallen back to $1.10, that more vessels than usual are remaining in the Lake Superior trade late in the season. Schooners of the smaller classes are beginning to go into winter quarters, now, but these have not yet cut much figure in reducing the carrying capacity. The ore is freezing to a depth of two feet on the shipping docks, and indications are that the beginning of the end has come. Coal shipments are no heavier, but it is expected that all rates will almost, if not quite, hold their own until the close of the season.

The following statement shows the stocks of wheat in store in public elevators at the head of Lake Superior November 9, 1895:

	Bushels
Belt Line	685,498
Consolidated	1,699,657
Globe	1,762,277
Great Northern	338,147
Superior Terminal	740,505
Consolidated H	64,860
Consolidated B	95,461
Aggregate	5,386,408
Wheat in store at Minneapolis	14,178,828

NOT A PROPER CLAIM.

Judge Swan, of the U. S. Court, at Detroit, denied on the recommendation of Commissioner Davison, the claims against the steamers R. G. Stewart and Metropolis, which with the steamer Dore, formed Holt's Lake Shore Line of steamers. Robert Maxwell, of Bay City forwarder for Holt's line, had libeled the Stewart and Metropolis to collect a claim of $800 owed him by the company when it became insolvent, chiefly for freight charges paid to railroad companies by Maxwell as agent. The Second National Bank, of Bay City, filed an intervening libel for about $4,100 for moneys advanced for supplies, fitting out, etc. Commissioner Davison, held and was sustained by the court, that these claims were not against the vessels, but against the company operating them.

THERE will be a general shifting around of officers of the Engineer Corps in about two weeks.

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and im rove the character of the service rendered to the public.

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FLOTSAM AND JETSAM.

Lorain coal shipments for October were 38,500 tons; ore receipts, 11,680 tons.

The Ann Arbor car ferry boats are badly hampered by shallow water at Menominee.

Ashland ore shipments up to and including last Saturday were 2,314,825 tons for the season.

The little steamer Jack (Br.) which sunk the Norman in Lake Huron, has again distinguished herself by sinking a dredge in Cornwall Canal.

Nau Bros., of Green Bay City, who recently sold the tug Charnley to Chicago parties, are said to be negotiating for the purchase of the tug E. G. Crosby.

Mr. A. W. Willey, formerly consular agent at Port Arthur, Ont., has assumed the duties of collector of customs for that district, which covers 2,800 miles, and is the largest in Canada.

When the Curry and Craig lightered their cargoes at Amherstburg recently they reloaded in Canadian waters. They found themselves in a snarl of red tape, which would have been avoided had they reloaded in American waters.

Capt. Ben Boutelle has experienced another streak of his proverbial luck. His schooner Twin Sisters lost her anchor and 90 fathoms of chain at Bar Point. He dispatched the Sweepstakes to search for them, and they were brought up at the first sweep.

A week ago Sunday the entire crew of the Sakie Shepherd were poisoned by something they had eaten, and the steamer drifted helplessly about Lake Huron all day before anyone could return to his post. One of the crew died later. On Wednesday of last week the crew suffered a recurrence of the malady while the steamer was in dry-dock at Detroit.

The Standard Oil Co.'s lake oil barges carry electric lights that are vapor proof, so that there is no danger of an explosion or fire from them even when naphtha is being carried. Two large pumps in the forward part of the boat are used to discharge the cargo, and when these are run at full capacity the cargo of 10,000 barrels can be discharged in six hours. A double bulkhead between the boiler-room and the oil tank is kept full of water all the time as a protection against fire. Two powerful steam pumps also supply a protection from fire. The two barges, or more properly, schooners, are being towed by tugs belonging to the Saginaw Bay Towing Association.

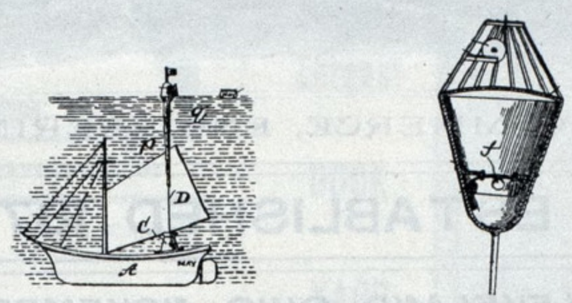
NEW PATENTS.

(ILLUSTRATED.)

Following is a list of patents that have been recently awarded on inventions bearing on navigation, marine trade and relative matters:

549,281. Marine Wreck-Indicating Device. Louis H. Timmans, Baltimore, Md., assignor to Louis B. Bernei and Maurice Laupheimer. same place. Filed March 18, 1895.

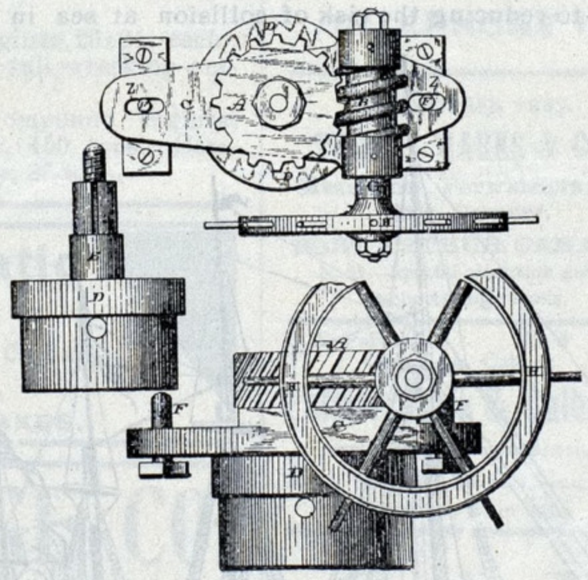
The device consists of a buoy having a sealed chamber, provided with an intoning arrangement consisting of a gong with a loose ball in the chamber, which is made to strike against the gong by the action of the water, and also of a line for securing the buoy to the vessel, in combination with a telescopic casing sur-



rounding the line, the latter being wound on a reel inside a cage which is attached to the lower end of the buoy. The whole device is intended to be placed on the masthead or other elevated position on a ship, from which it would float off should the vessel become submerged, the gong making sufficient noise to attract attention by day or night.

549,219. Worm-and-Gear Steering Apparatus. Adam P. Stoddart, John A. Stoddart and Robert A. Wilson, Gloucester, Mass. Filed July 8, 1895.

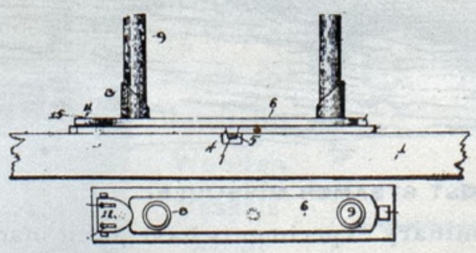
The frame of this device has bearings formed upon its top to receive the ends of the screw shaft, and provided with an opening for the upper end of the rudder post to pass through, and with the slot Z through its



ends, combined with the worm shaft, having a hand-wheel secured to one end, the rudder post projecting above the top of the frame. The worm wheel is secured to the upper end of the post, and meshes with the worm shaft.

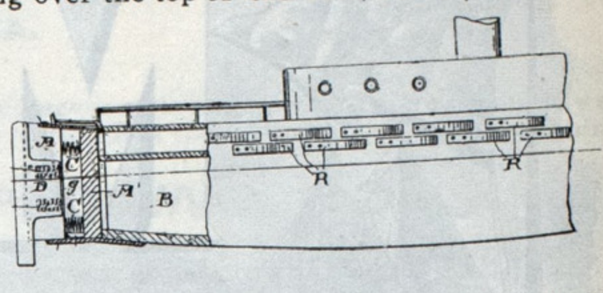
549,218. Oar-Lock. Fred B. Stacey, LeClaire, Iowa. Filed March 14, 1895.

The claim is for an improved oar-lock composed of one or more members, one of said members firmly secured to the boat, a member movably secured to the fixed member, a lug forming part of the movable member, passed through an opening in the fixed member and extending beyond the said member, a hole in said lug for the insertion of a pin, a locking device located at the end or ends of said fixed member, and movable on a spring, said lock operated in guides for the purpose as shown.



549,319. Ship. Samuel Katzin, Newark, N. J., assignor of one-third to Morris Katzin, same place. Filed June 13, 1895.

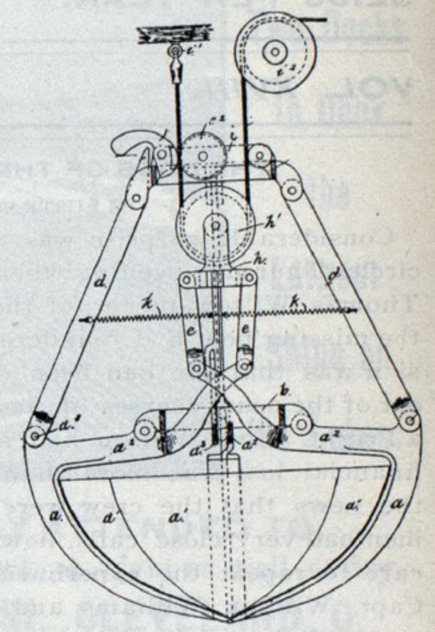
The claim is for the combination in a ship of a movable bow composed of two parts, and located at a little distance in front of the hull, flexible plates secured to the bow and having their rear ends extending over a portion of the hull, a plate at the top of the bow extending over the top of the hull, and a plate secured to



the bottom of the hull and extending forward under the bow; a plate between the two parts of the bow, springs connected with the rear end of said plate and with the parts of the bow, whereby the front edge of said plate is normally held in front of the bow, and said plates for covering the space between the bow and the hull.

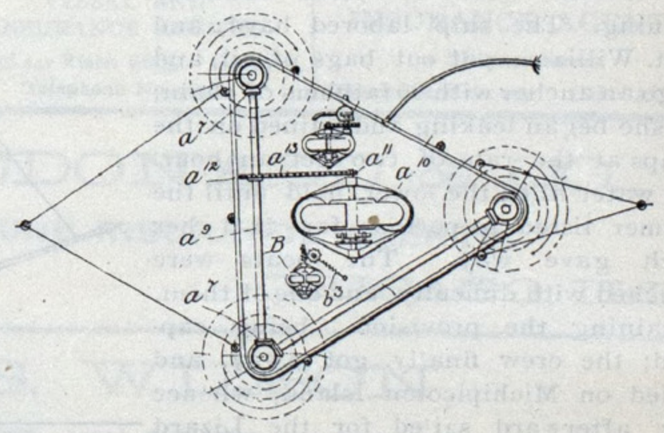
549,321. Grappling or Dredging Machine. Louis E. Laurent, Trenton, N. J. Filed March 19, 1895.

The claim is for a grappling device, comprising pivotally supported jaws, a ring or frame upon which these jaws are hinged and fulcrumed, a second ring or frame connecting with said jaws through the medium of pivoted connecting rods, and an operating rope or its equivalent, adapted to be attached at one end to a stationary support, and having a loose or sliding connection with the inner ends or arms of said jaws, and a means or device supported by said ring or frame, constructed and operated to automatically lock with said operating rope, whereby the jaws may be opened, and automatically released from such locking engagement upon the opening of the jaws.



549,340. Machine for Cleaning Hulls of Vessels. Edgar H. Upham and Hugh Osborne, Orleans, Mass. Filed Jan. 21, 1895.

The machine consists of a motor inclosed in one of a series of water-tight compartments, and exteriorly mounted brushes or scrapers operatively connected



with the motor, with means for varying the buoyancy of the casing by filling and emptying one or more of the water-tight compartments.

A full description of these patents can be obtained by writing to the Patent Office at Washington, enclosing 14 cents for each, and mentioning THE MARINE RECORD.

A FINE SAULT CANAL EDITION.

Superintendent Boyd, of the Canadian St. Mary's Falls Canal, is distributing among his friends copies of the issue of October 26, of the Toronto Globe. The eight-page supplement of this number is printed on an excellent quality of calendered paper, and is devoted almost exclusively to a description of the new Canadian canal and its surroundings, illustrated with nearly fifty five half-tone engravings of the lock and its approaches from different points of view, with the finest and largest Canadian and American vessels, and of the American locks as well. The edition is remarkably complete even to those accustomed to newspaper enterprise, and reflects the highest credit upon compilers and publishers.

A NAVAL RESERVE YACHT.

(ILLUSTRATED.)

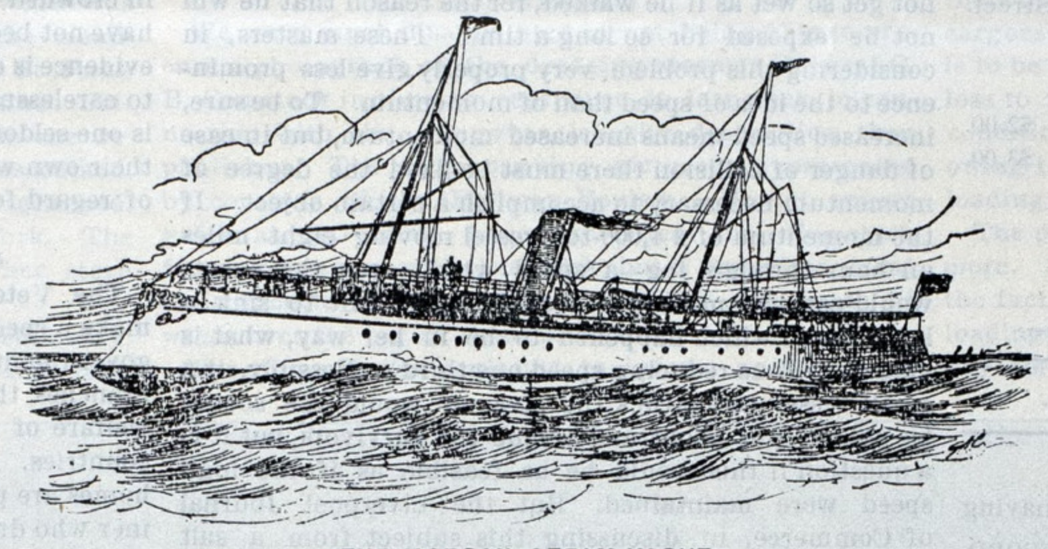
Mr. F. W. Morgan, of Chicago, has placed with the Racine Boat Manufacturing Co., of Racine, Wis., an order for a steel steam-yacht of an entirely new type, and much resembling the modern torpedo boats of the Ericsson type. She will be schooner rigged, with two pole masts, and a canvas outfit which will enable her to proceed under sail at a speed of four or five miles per hour. The hull will consist of six water-tight compartments. Her length on the water line will be 140 feet, and on deck 130 feet, the bow projecting 6 feet beyond the deck, and sloping out to the water line, this, with her forefoot, giving her a ram-shaped bow. Her beam on deck will be 18 feet 3 inches, and at the water line 17 feet 4 inches.

The engine room will contain a four cylinder triple-expansion engine, with cylinders 13, 19½, 20 and 20 inches in diameter by 15 inches stroke. This will turn a bronze screw 5 feet 6 inches in diameter with sufficient rapidity to give the yacht a speed of 18 miles per hour. The boiler room will be separated from the engine room by a steel bulkhead, and will contain a water-tube boiler (probably a Warrington) with 50 square feet of grate surface, and tested to a steam pressure of 250 pounds. The engine will develop 850 h. p.

The entire forward end of the yacht will be occupied by the quarters of officers and crew, and by the galley. Aft of these will be state-rooms, toilet room and large salon. On deck forward will be a 25-foot deck house, which will be used as a dining room and deck salon. She will steer from a bridge on top of this deck house, and will carry a searchlight as well. All the finish in the deck house and guests' quarters will be mahogany.

The manager of the Racine Boat Manufacturing Co., Mr. Theodore Poekel, who is a graduate of the Herreshoff shipyard at Bristol, Conn., will give the construction of the yacht much of his personal supervision. Mr. Morgan will be represented in the building of the boat by Mr. George Warrington, naval architect and consulting engineer. Especial care will be taken to have the yacht conform to the requirements of the Navy Department, and according to the Chicago papers the object is to build a boat which, in case of war with England, could be transformed into a gunboat with but a few days' work. The changes would consist of a removal of the deckhouse, substitution of a conning tower, the placing of gun circles, and mounting a battery of rapid-fire machine guns, and a torpedo gun. The high speed would more than offset any disadvantage in point of size, and considerable harm might be done with her ram-shaped bow.

It is not yet decided whether this extra armament will be built, but this may depend somewhat on whether Congress or the administration takes any action in re-gard to the memoranda connected with the treaty of 1877, about which a great deal of pressure will be brought to bear from the lake districts, in order that lake shipbuilders may be no longer discriminated against in the construction of naval vessels.



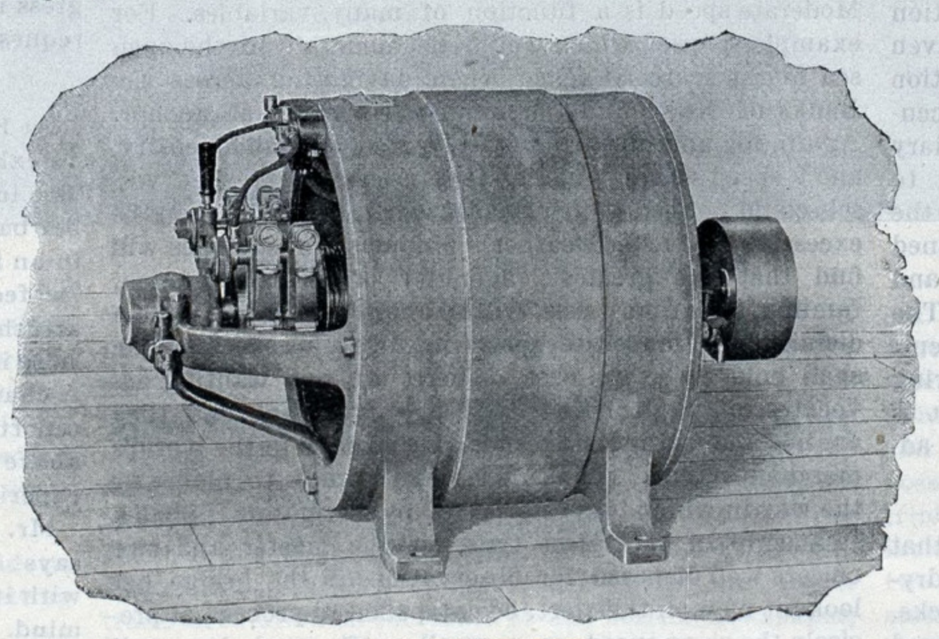
THE MORGAN STEAM YACHT.

THE ZENITH CITY'S BOILERS.

Chief Engineer James H. Perry and P. A. Engineer Benjamin C. Bryant have returned to Washington from the lakes, where they made a round trip on board the steamer Zenith City. The object of this trip was to test water tube boilers of this vessel, which are of the Babcock & Wilcox type, in order to make a comparison between their operations and those of the Belleville coil boilers with which the North West, the sister ship of the Zenith City, are fitted and which were tested by engineer officers some weeks ago. The Zenith City is essentially a freight boat, and not built for speed, as is the North West. The report of these officers on the Zenith City, which is now in course of preparation, will show that while the Belleville boilers on the North West have a frontage of 112 feet, the Babcock & Wilcox boilers of her sister ship have only a 12-foot front. The coal consumption of the latter boilers is something like a ton and a quarter an hour, slightly less, it is said, than the Belleville boilers, and in other ways they are said to be more economical. It had been practically decided to adopt the Babcock & Wilcox boilers for use in three composite gunboats, contracts for which have just been awarded. One of the twin-screw gunboats to be built by the Union Iron Works, one of the boats to be built by the Bath Iron Works, and the boat to be constructed by Nixon will be fitted with water tube boilers.

ELECTRICITY ON THE ERIE CANAL.

Figures are here given to show the advantages obtained by applying electric power to towing on the Erie canal. The system which was so successfully tested and which it is proposed to extend to the entire length of the canal, is remarkably simple. Motor cars are suspended in midair from cables on which the current is carried. A man seated behind the motor directs its movements much as does the motorman of an ordinary trolley car. The possible speed of these motors running free is 15 miles an hour, and nothing but the canal itself can limit their reasonable speed. Ex-Governor Flower in the course of an address said that it costs $43.24 to haul a 240-ton boat from Buffalo to Albany by horsepower and $17.60 by steam, while with electric power, at a rate of $20 per horse-power, this can be done for $7.97. This is the contract price at which power is to be furnished. Moreover the speed of boats can be doubled, as compared with towing by animal power, the result of which would be practically doubling the present capacity of the canal. The figures given show that electricity costs less than mule power in towing a canal boat and it is evident that the near future will see some important developments in this means of transportation. The comparative statistics shown in the annual report of a street car company which is now operating about 12 miles of its roadway by the cable system, about five miles by horses and about six miles by electricity strikingly show the advantages of electricity in point of cheapness. The figures for five years were given. The operating expenses per car mile using horses were $.109 and in 1894 it had increased to $.112. The expenses per car mile with the road using electricity were $.115 in 1890, but in 1895 the amount was cut down to $.092.



A NEW GENERATOR.

HYDROGRAPHIC CHARTS

Of Lakes Erie, Ontario, Superior, Michigan, Huron, and St. Mary's, St. Clair and Detroit Rivers, for sale at the office of the MARINE RECORD, No. 144 Superior street, Cleveland. Prices 75 and 50 cents each.

"I. B." GENERATORS AND STATIONARY MOTORS.

(ILLUSTRATED.)

The list of slow and moderate speed four pole dynamos and motors of the General Electric Company has been supplemented by a series of machines adapted to smaller output than is practicable with the four-pole type. They are classed under the head I. B. from the fact of having an ironclad bipolar frame, and are built for various outputs—from ¾ to 4½ kilowatts as generators and from 1 to 5 horse-power as motors.

The frames are cylindrical and are supported on short legs. This brings the center of gravity very low and conduces to stability and steadiness when running. The space occupied by the machine is small for its output, and its shape and construction allows of its use in positions where machines of the ordinary bipolar type could not well be placed. The armature has a toothed core with the conductors embedded in the slots. Ample cross section has been allowed the copper in the field and armature windings, and the insulation is of the highest grade.

The brush holders are designed to hold the brushes firmly and evenly upon the commutator, adjusting themselves readily to the wear of commutator and brush, preserving under all conditions a good contact without excessive friction.

The speeds are comparatively low, varying from 1,800 to 1,000 revolutions per minute according to the size of the machines.

They are especially adapted to the requirements of small motor service. Their small size, low speed, high efficiency and simplicity of construction render them peculiarly valuable in printing, wood turning and establishments of a similar character, and for the operation of small pumps, ventilating fans, machine tools, etc. A large number of these I. B. motors are already in use.

The generators are successfully used in isolated plants and in cases where a small amount of current economically generated is desired.

AS CLEAR AS MUD.

The last issue of Black Diamond, published in New York, contains the following jargon which is supposed to pass for an authorative comment on the coal situation in what "Down East" people term "the West:"

The Western mines are very busy and a large output is being recorded in Indiana, Ohio and Illinois. where the tonnage for the year promises to reach a figure which will eclipse that if not pass the last season and make 1895 a banner year. Prices have also stiffened and business is better today than has been witnessed for a long while. Shippers are generally filled with orders and many of them are short great quantities of cars, in addition to this what stocks were in existence have been pretty well wiped out. It would appear that this heavy tonnage that the demand for fuel is of such a character as to be attributed to the natural expansion of Western trade making even the present output only sufficient for consumptive demand. We think that the West has emerged out of the gloom of the last few years and that we are in for a long period of general prosperity. Not only coal mines, but all classes of mines are working at high pressure.

It is to be regretted that the number of consumptives has so increased that the entire output is necessary to keep them warm; or perhaps the brilliant but befuddled writer distinguishes coal sold for burning from those specimens which serve only for ornamental purposes. He seems to be "short great quantities" of vocabulary to express the "natural expansion" of his ideas, and it is to be hoped that he will "emerge out of" the state of "eclipse" in which he has been groping about and stumbling over the rules of rhetoric, grammar and punctuation, and that next week the readers of our contemporary will be favored with the usual concise, explicit and accurate report of the commercial situation in coal which is generally given in that magazine.

Tobin bronze is coming more and more into general use all the time in vessel construction, owing to its great strength in conjunction with its light weight and durability. A new steam yacht building at Nyack, N. Y., of the composite style is to have her planking fastened to her steel frame with Tobin bronze bolts.

MARINE RECORD

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Invariably in advance.

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CLEVELAND, O., NOVEMBER 14, 1895.

PUBLISHERS' NOTICE.

We beg to announce that Capt. John Swainson having severed his business relations with THE MARINE RECORD, its publication will be continued by Smith & Smith.

Respectfully,

SMITH & SWAINSON,
SMITH & SMITH.

All mail matter should be addressed and all remittances made to

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Publishers MARINE RECORD.
Leader Building,
Cleveland, O.

MAYOR PINGREE has recommended to the City Council of Detroit, that a movement be inaugurated to secure the abrogation of that obnoxious provision of the treaty with Great Britain which has been sustained with such detriment to the interests of lake builders. The question is being agitated in other circles, and it is said that even the Navy Department has taken a hand in the question and will ask for an appropriation of $55,000 for the accumulation of a supply of rapid fire rifles for the auxiliary navy, which will be interpreted by the department to consist chiefly of lake vessels. The agitation of the question can do no harm, and if any points can be gained which will work out to the interest of lake builders and lake commerce will certainly be worth the efforts. The great difficulty in the way is that the British government, if asked to consent to an amendment, will probably bring forward a dozen axes of its own to be ground, and it is a question whether the net result will be to the advantage of the United States.

LATE advices from Washington are to the effect that the battleship Texas has been badly damaged in drydock at New York, by straining on the keel blocks. Several frames buckled immediately below the armored casemate and magazines. The vessel was built on plans purchased abroad, which were severely criticized on their examination by Navy Department officials, who held that strength had been sacrificed to save weight and make the vessel float at the calculated displacement. Their views were thought by the administration to be based by jealousy, and the Texas was built on the English plans; and the country is now paying dearly for the experiment. This result seems to argue either the inferiority of English builders, which claim would meet with prompt denials from builders on the American side; or else it means that there is an understanding between the British government and her great manufacturing and shipbuilding plants that at times brings about developments which seem almost the fruit of a tacit conspiracy. Better get plans at home hereafter.

MODERATE SPEED IN FOGGY WEATHER.

Nearly all rules and regulations which have been passed to secure as safe a movement of vessels as possible have prescribed that steamers shall, in fog, mist, and falling snow, proceed at moderate speed. What is meant by moderate speed has never been clearly defined except by court rulings in individual cases after the damage has been done. Now, of course, a moderate speed for a 19-knot steamer would mean high speed for one making twelve knots an hour. This variance so neutralizes the supposed remedy for collisions that it gives a place to the counter-argument that has been set up by certain lake masters of experience, that it is better to go at full speed through fog in order to get out of the fog belt the sooner, on the same principle that if a man runs through the rain from shelter to shelter he will not get so wet as if he walked, for the reason that he will not be exposed for so long a time. These masters, in considering this problem, very properly give less prominence to the idea of speed than of momentum. To be sure, increased speed means increased momentum, but in case of danger of collision there must be fixed the degree of momentum necessary to accomplish a certain object. If the momentum of a 4,000-ton vessel moving eight miles an hour through fog—a speed which even the courts would consider moderate—would be sufficient to sink a large vessel which happened to be in her way, what is gained by thus reducing speed one-third? Possibly, it a small vessel were struck the steamer would the sooner be able to put about and rescue the survivors, but it is a question if this would be as feasible as if the high speed were maintained. But the Liverpool Journal of Commerce, in discussing this subject from a salt water point of view says: "One fact brought out by the International Marine Conference is that every master is a law unto himself as regards 'moderate speed.' The United States sent out a circular to ocean flyers, to small steamers, and to sailing ships, and the ideas as to 'moderate speed' proved as diverse as the ships themselves. A 20-knot vessel thought 16 was moderate; a 10-knot vessel gave 7 knots as moderate speed. Marsden rightly decided that 'moderate speed is a relative term; it cannot be defined so as to apply to all cases,' and then laid down a rule, deduced from a number of judgments, 'it may be stated, as a general rule, that speed, such that another vessel cannot be seen in time to avoid her, is unlawful.' This is so indefinite that few would care to act upon it except in the presence of another vessel unless time were of no consideration. Every shipmaster knows fairly well what his duty really is in a fog. He should go as cautiously as possible. Moderate speed is a function of many variables. For example, a speed which would be moderate in the open sea might scarcely be so when navigating across the Banks of Newfoundland among fishermen at anchor. Again, fog and mist are not always of the same density, and a speed which is moderate in a light mist, when vessels could be seen some distance away, would perhaps be excessive in thicker weather. Shipmasters' societies will find that the greatest ingenuity of skilled seamen, familiar with many seas, will scarcely suffice to frame a definition of moderate speed in foggy weather, which shall hold in every case. There are not wanting advocates of high speed in foggy weather, and they are not among the least responsible masters in the world's merchant navies. The rule is not so much to blame as the way in which it is interpreted by navigators. Shall a steamship of the latest type, with a master and two officers well disposed for observation on the bridge, her lookout men on the alert, be compelled to proceed at precisely the same speed as a small craft much less well found and less able to avoid a danger at a moment's notice? This is what a hard and fast definition of moderate speed would really ensure. Even then, though, the big fellow, at the same rate of speed, would be more dangerous than a small one by reason of his greater weight. Excessive speed has not so far been as dangerous as indecision, and the thousands of passages made across the North Atlantic go to prove this." And from the records of many collision cases which it has been necessary to settle in the courts, it might be said that the Journal's closing statement is almost equally true on the lakes.

THOSE who constantly hold up ocean rules and salt water discipline as models to be followed on the lakes, and who consider inland navigation as rather slipshod in practice, may be edified to learn that the ship William H. Connor, Captain Frank J. Pendleton, was lately libeled at Portland, Me., by District Attorney Bradbury for alleged failure to display at sea the red and green side lights. The libel charges this neglect for one month, during the passage from New York to Yokhoama, and on the return trip from Kobe to Portland, and the total amount of fines would reach about $6,000, the ship's owners bonding her for twice that amount. The complaining witnesses are four members of the crew, including one man who kept a diary. Of course the fact that spitework is often at the bottom of these complaints will have its weight, but the charge will call for a great deal of hard swearing on the part of the defense. It is alleged by an exchange that the display of lights on long voyages is often omitted, and that even in the coasting trade and in crowded waters, violations of the rules in this respect have not been infrequent, although direct and conclusive evidence is difficult to secure. This offense, sometimes due to carelessness, but often to a principle of petty economy, is one seldom heard of on the Great Lakes, which will hold their own with salt water people in general in the matter of regard for rules.

HOMES FOR VETERAN SEAMEN.

The Veteran Seamen's Benevolent Association will make a special effort to bring before the United States government, in both its administrative and legislative branches, the wide contrast between the regard for the welfare of aged and infirm seamen in this and other countries. In England and on the Continent government homes are provided in many cases, and the ancient mariner who drops anchor there is sure of good quarters and plenty to eat for the remainder of his days. The Veteran Seamen will probably not ask for the establishment of homes in different sections of the country, as that would be entirely useless under the system of rigid economy that will prevail; but the present movement will have for its object to secure domiciliary privileges for members of this class, after being properly certificated by some authority, in the National Soldiers' Homes throughout the country. The ranks of the soldiers of the rebellion, for whom these homes were established, are rapidly thinning out, and the list of those over whom the bugle has sounded taps is greater every year. Why should not these beautiful homes be thrown open to the old salt who has spent his whole life on the deep, developing the commerce of the country, and serving it as truly by adding to its prosperity as did the brave men who saved it from dissolution? It is to be hoped that this movement may receive a general impetus, and that Congress may see fit to grant this very modest and moderate request.

ANOTHER WRECKING DEVICE.

At Fort Steele, Wyo., November 4, Fred Kindt gave an exhibition of a new apparatus for lifting wrecks. The invention consists of the inflating of powerful rubber bags by igniting with electricity material contained in an iron pipe which forms a gas. The bags used were 7x5 feet, weighing 300 pounds. One of these bags was attached to an immense rock weighing 6,000 pounds and sunk in twenty feet of water in the North Platte River. A charge of electricity sent through the wires made no report, but in two minutes two-thirds of the bag was above water and the immense rock was floating. The experiment was an entire success.

Mr. Kindt, the inventor, a plain-looking ranchman, says his invention followed the sinking of the Elbe with its great loss of life. That disaster weighed on his mind. These rubber bags each capable of lifting from 15 to 20 tons, can be rolled up and fastened to the outside of a vessel and inflated by the captain of a ship from the bridge by simply touching a button. Others of convenient size can be placed in like positions all over the interior of a ship, which insures the entire safety of vessels and passengers in case of accident. The invention can be used to raise sunken vessels as well.

NEWLY ENROLLED TONNAGE.

Following is a list of lake vessels to which official numbers and signal letters have been assigned by the Commissioner of Navigation, for the week ended Nov. 2:

Official No.	Rig.	Name.	TONNAGE.		Home Port.	Where Built.
			Gross.	Net.		
136,525	Sch.	Edna	53.68	40.57	Detroit	Detroit
127.110	St. s.	Ciscoe	25.13	15.75	Grand Haven	Grand Haven

SHIP BUILDING AND REPAIRS.

ANOTHER OFF WEEK.

The past week has brought to light nothing new in the matter of building, except that Abram Smith & Son, of Marine City, expect to lay down a new boat, at an early date, on builders' account. The F. & P. M. car ferry contract will probably be awarded next week, and at least four leading builders will submit proposals. Work is progressing steadily at all the shipyards, but the new C. & B. sidewheel passenger steamer City of Buffalo, at the Wyandotte shipyard, will probably be the first to be launched.

GENERAL REPAIR WORK.

Repair work in Cleveland during the past week was of a minor character the principal job being the mending of the damages by collision to the steamer St. Paul, which has been in the Ship Owners' dry-dock since Friday last. In addition to the repairs on her side she received some bottom planking and had her butts calked. The Onoko was also in dock to have her wheel tightened, the Cleveland Ship Building Co., doing the work. The tug W. D. Cushing stopped a leak around her stern pipe.

The Specular left the Cleveland dry-dock Wednesday, after getting a new stem and some planking and calking on her bottom. The schooner H. P. Baldwin stopped a leak and calked her butts.

CHICAGO—At Miller Bros.' shipyard the tug E G Crosby was in dock for repairs to rudder; the steamer Petoskey for fastening loose wheel; the steamer Scranton for straightening and repairing shoe. The steamer Rochester received repairs to damage occasioned by collision with the schooner A. Mosher. The steamer City of Berlin had her top sides calked.

At the Chicago Ship Building Co.'s yard the steamer H. B Tuttle is still in dock undergoing extensive repairs. The barge Wayne is having considerable work done on her and will go into dock to complete repairs when the Tuttle goes out.

DETROIT.—Wreckers are having good success in raising the sunken steamer Britannic, having already got her into shallow water with her decks above the level of the river. The steamer Business went into dry-dock last Thursday and a survey was held by J. M. Jones, Walter Oades and J. R. Oldham, the damages from collision being fixed at $3,000. She will be thoroughly repaired by the Detroit Dry-Dock Co. before proceeding to Buffalo with her grain cargo, which was not damaged.

Barge 118 has completed repairs at the Wyandotte shipyard. The schooner Superior has been getting calking done at the Detroit dry-dock.

The schooner Nelson was in Clark's dry-dock this week for bottom calking and minor repairs.

The schooner Groton is having a new stern built at Oades' shipyard. She was damaged by a tug which was trying to release her from the bottom off Amherstburg.

The steamer Fayette Brown completed repairs Tuesday. The Livingstone is still in the Orleans street dock for repairs to her bottom made necessary by grounding at Sand Beach.

BUFFALO.—The steamer John Craig completed her extensive repairs and left the Union dry-dock Tuesday.

WEST SUPERIOR.—The Centurion got into dry-dock Saturday morning, following the J. Emory Owen, which had received repairs to her rudder. The Centurion was surveyed by Capt. F. D. Herriman, of Chicago. The Pathfinder, which got aground at Grosse Pointe, will probably be repaired here. The R. R. Rhodes is having her rudder repaired by a diver.

NOTICE TO MARINERS.

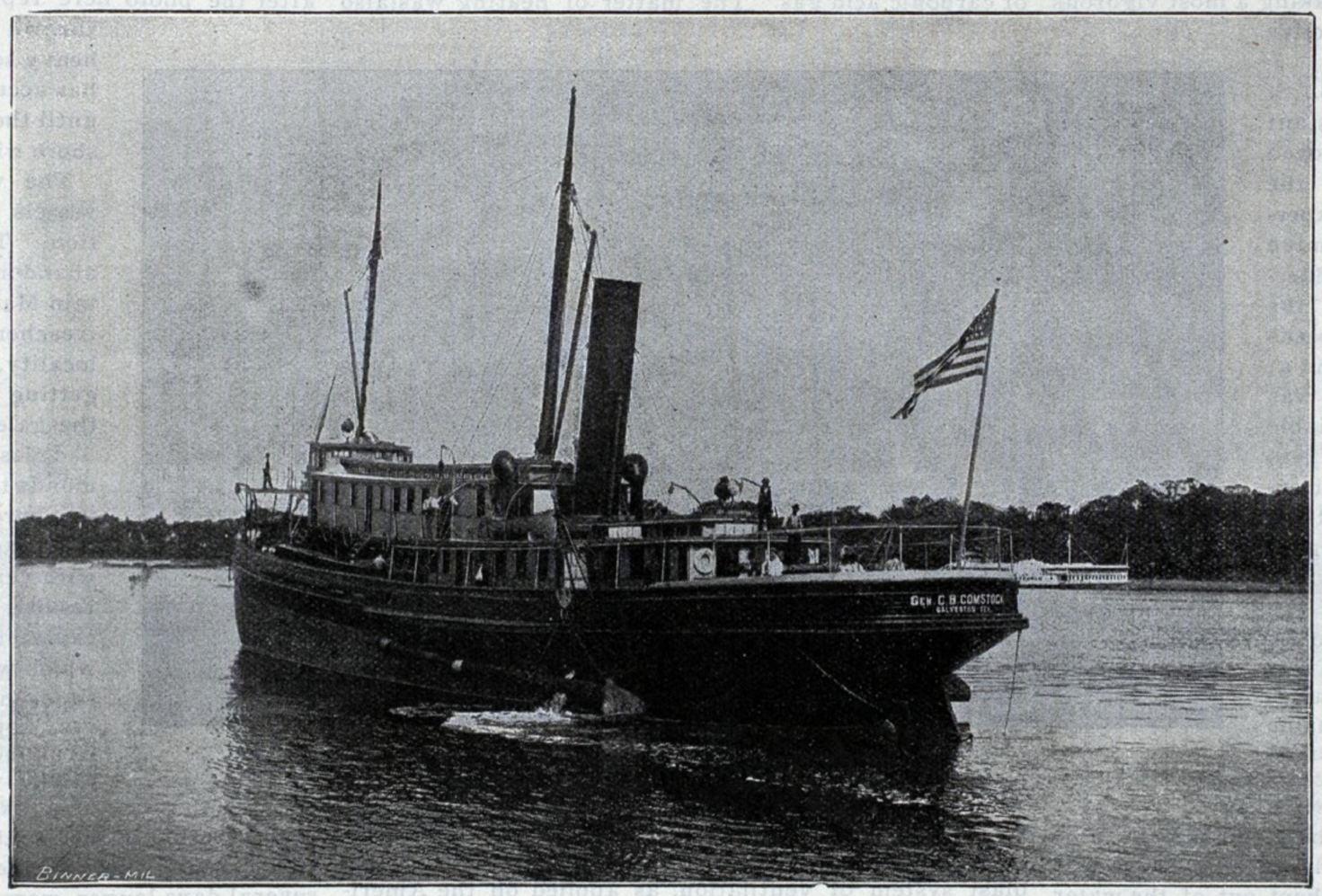
A new shoal has been located one mile NNW. of Port Austin light, Lake Huron, by Custodian Wagstaff, of Sand Beach harbor of refuge. Col. Lydecker, Engineer Corps, U. S. N., in charge of work in the Lower Peninsula, has already had it marked with two buoys, and will give it a more thorough survey during the coming winter. It consists of a narrow ledge of boulder a quarter of a mile long, extending in an easterly and westerly direction, with only 12 feet of water over it at the normal stage of this season.

THE DREDGE GENERAL COMSTOCK.

(ILLUSTRATED.)

We were much disappointed in not being able to procure a photograph of the dredging steamer General C. B. Comstock in time to reproduce it last week in connection with the somewhat lengthy description then published. The accompanying picture is represented by courtesy of the Railway Review. Recent severe gales at Galveston have prevented the Comstock from continuing with her work, but it proved of great assistance to the harbor by increasing the depth of water over the bar to about 22 feet.

The Bucyrus Co. neglected to inform us last week that the boilers of the Comstock, two in number, 10 by 11½ feet, were furnished by the Cleveland Ship-Building Co.



DREDGING STEAMER GENERAL COMSTOCK.

SOMETHING FOR ADVERTISERS TO THINK ABOUT

It may be of interest to advertisers to learn that the publishers have just been asked to submit figures on unbound volumes of back numbers of the MARINE RECORD for a prominent English book seller and publisher. The RECORD has not only by far the largest trade circulation on the lakes of any marine newspaper, but it circulates all over the United States and Canada, on the rivers as well as on the Atlantic, Gulf, and Pacific coasts. The RECORD has also a large number of readers in England and all the English-speaking colonies, extending as far as Australia. All this is in addition to an extensive personal circulation among the shipping fraternity throughout the lake region. It can readily be seen, therefore, that the RECORD offers advertisers especial facilities for developing home and foreign trade, such as can be boasted of by few trade journals of any class.

Whitworth Bros., No. 60 High street, Cleveland, have laid on our table a copy of their very excellent directory of Lorain and Elyria, which they have just issued. It is supplemented with a map and street directory of the two towns. Whitworth Bros. also circulate handsome and accurate maps of Cleveland and the State of Ohio.

DELAYS ON COAL CARGOES.

Lake vessel men can get some idea of the advantages they enjoy in dock machinery as compared with even such an advanced commercial locality as the North Atlantic Coast of the United States. The Philadelphia Record says that owing to the great delay in discharging coal cargoes at New England ports the owners of vessels engaged in the coastwise trade will hereafter demand loading and discharging days in their charters, as are now given to all craft engaged in the foreign trade. Some idea of the necessity for this action can be obtained from the facts that there are now 16 coal-laden vessels at Boston waiting their turn to discharge their cargoes at Mystic wharf. Nearly all are from Philadelphia. Wharfage is charged at nearly all of these discharging points at the rate of $7 per day. As the wharves are mostly owned by the consignees of the cargoes the longer the stay the better, as so much more is to be deducted from the freight, with corresponding loss to the owners of the vessels. Under the present conditions many vessel owners refuse to carry coal, owing to the delay, not only in discharging, but also in loading.

The principal complaints are at New York and Baltimore. Some idea of the delay may be gathered from the fact that the schooner Three Marys was 18 days in loading and 12 days discharging, and she paid $7 per day for wharfage. The barge City of Atlanta was loaded in three days and it took 15 days to get the cargo out. She paid $10 per day wharfage. The loss to a coasting vessels by these delays and wharfage charges is not less than $25 per day. Very often vessels could make a voyage in the time spent in waiting for their turn to discharge. Through the recent delays the owners of coastwise vessels have lost at least half a million dollars in the last few months.

A SCOTTISH YACHT.

The Engineer, New York, says that Mr. Rutherford Stuyvesant, of that city, has recently purchased a new steam yacht in Scotland, which was built to his order. She is called the Arcturus, and is a three-masted cruising ship. Length on l. w. l., 135 feet; length over all, 169 feet; breadth, 27 feet; depth, 17 feet 5 inches. The dining and drawing rooms are finished in hard-wood, while the staterooms have hardwood dados. There are two large deck houses, the one forward containing pilot, chart house and smoking room, and the after house forming a handsome dining room. The upholstery work in the main saloons consists of amber and blue brocatelle, and in the deckhouses blue embossed leather. The machinery consists of a set of triple-expansion engines, having cylinders 13, 21 and 34 inches by 24 inches stroke, supplied with steam from two Almy water-tube boilers. The yacht has steam steering gear, steam windlass, side winches, electric lighting throughout, and a search-light on the bridge.

PERSONAL.

Capt. Lewis Ryerse, of St. Ignace, was in Cleveland Thursday. He reports business unusually active at the Straits.

Mr. Frank Manton, of the American Steam Windlass Co., of Providence, R. I., was a caller at THE RECORD office Wednesday. Mr. Manton is making his periodical trip to the lakes, and has met with good success, as usual, carrying home with him orders for two capstans for the Erie docks, Cleveland; two for the new American lock at the Sault, and several for the Cascade locks now building in Oregon.

Complete chart and business directory of Buffalo harbor for sale by THE MARINE RECORD. 144 Superior street, Cleveland.

NAVAL ARCHITECTS AND ENGINEERS.

The third annual meeting of the Society of Naval Architects and Engineers was held in New York last Thursday and Friday. The officers of last year were re-elected. Lord Brassey was chosen an associate member.

One of the most notable papers read was that of Chief Naval Constructor Philip Hichborn, who opened Friday's session with a paper on "Recent Designs of Vessels for the United States Navy." He prefaced his paper by stating that after long consideration it had been decided that the following types of vessels should compose the fleet of such a country as the United States: Sea-going battleship, low free-board harbor defense armor-clads, armored cruisers, cruisers, gunboats and torpedo boats. Too much emphasis, he said, had been placed on cruisers, to the disregard of that real fighting machine of naval warfare—the battleship. Continuing the line of argument, Constructor Hichborn said:

"Cruisers are extremely serviceable in time of peace, and have a definite and useful function in war; but they will not decide battles. Coast-defense vessels and torpedo boats are vitally important in defending a harbor or dislodging an enemy after he has obtained entrance; but it is through battleships alone that an enemy can be met and vanquished before he has even sighted our coast; and through battleships alone that any successful demonstration may be made against the enemy's principal seaports, and thus, by taking a most vigorous offensive, carrying out a most effective scheme of defense."

"Rudder Experiments — U. S. S. Monterey," by Elliot Snow, assistant naval constructor, U. S. N., proved one of the most interesting of the papers read. The object of the experiments described was to determine the twisting movement on the rudder-head when using the helm with the vessel under way at various speeds of from four to twelve knots, and at various angles of the helm. It was found impossible to get any reliable observations with a helm angle of less than 15°, but the observations at superior angles proved very interesting, and details were given in the paper in ten tables complete with statistics, together with full description of the ship upon which they were conducted.

"Aluminum; Its Alloys and Their Use in Ship Construction," by James C. McGuire, proved to be a valuable history of this new metal so far as experience has afforded authentic information. He thought there were many places in shipbuilding where the metal can be used to advantage, but it is chiefly in smaller vessels and torpedo boats that can be kept out of the water much of the time, that its value chiefly appears.

"Tactical Considerations Involved in Warship Design," by Lieut. A. P. Niblack, U. S. N., proved to give many points of interest in regard to the newer ships of our navy and those of other navies, and the advantages of certain interior arrangements in the event of certain tactics being necessary. He thought that battleships should be formulated in conjunction with a continuous programme of shipbuilding, in which the ships should be built to suit the tactics and not the tactics continually modeled to suit the infinite variety of ships turned out under the fallacy of constantly improved types. He also rehearsed the disadvantage of voice tubes, as mediums of communication, and argued that telephones would be much better, and would effect a great saving in weight. The voice tube on the cruiser New York weighs 3⅓ tons, he said.

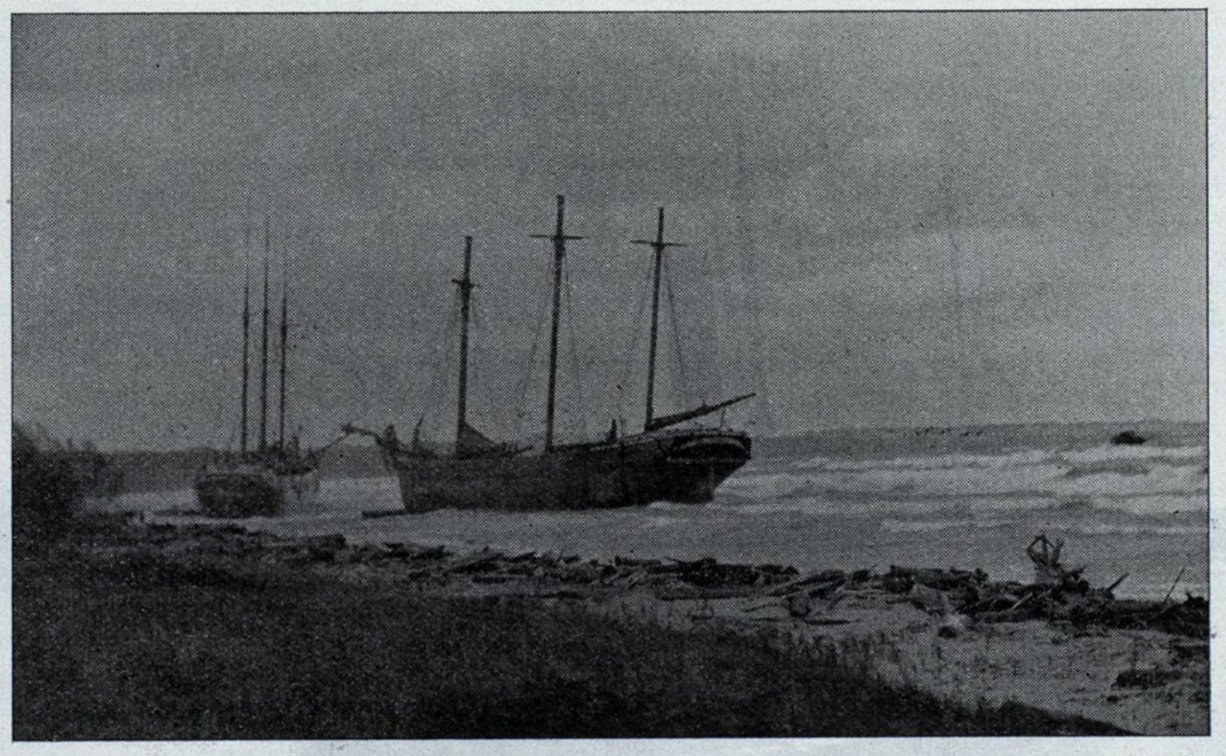
In his paper on the performance of the twin-screw steamer City of Lowell, Prof. J. E. Denton gives the results of careful tests of the performance of this, which is the latest representative of the twin screw system of propulsion, with triple-expansion engines as applied to inland navigation.

Capt. Henry C. Taylor's paper on "American Maritime Development" was an able presentation of the importance of securing to our commerce the control of the Pacific trade, and the necessity of completing the Nicaragua Canal with this end in view. At the close of this paper Admiral Meade suggested that the society should petition Congress in favor of the Nicaraugua Canal, and after some discussion Admiral Meade, General Hyde, Captain Miller, and Mr. Lewis Nixon were appointed a committee to consider the formation of a memorial to Congress, and to report before adjournment.

Prof. William S. Aldrick, in a paper on "Engineering Research in the Navy," showed the growing necessity for such research and advocated the establishment by act of Congress of a nautical engineering laboratory.

"The Centerboard—Its Influence on Design, Its Value and Its Proper Use," by W. P. Stephens, was a paper that had been eagerly looked for by the yachting men and was much enjoyed by all who took an interest in the smaller sailing craft. Mr. Stephens sketched the history of the centerboard as practically applied and drew a glowing picture of its utility, which he thought in danger at the present time of being underestimated. He concludes "that while the center-board has been at times an instrument of evil, through the easy way which it opens to bad design and construction, the device when properly handled by the honest and skillful designer is of the highest possible utility."

"Ventilation of Ships," by F. B. Dowst, endeavored to throw some new light on this old question by discussing the newest conditions and the newest possibilities by scientific ability to compensate for the accumulation of carbonic acid gas. The matter of heating was also treated of and several errors of piping that have been somewhat common in the past were pointed out. The blast system of ventilation, as applied on the American Line steamships St. Louis and St. Paul, was highly commended by Mr. Dowst as probably the best method yet devised.



THE ABANDONED MOONLIGHT AND KENT.

"Methods and Forms for Certain Ship Calculations," by D. W. Taylor, naval constructor, U. S. N., proved to be a paper treating of the best methods for calculating displacement, water-line areas, positions of center of buoyancy, locus of metacenters, etc. The paper treated chiefly of arithmetical instead of instrumental methods for such calculations and exhaustively considered the subject with numerous algebraical demonstrations, statistical tables and diagrams.

"The Number of Longitudinal Intervals in Ship Computation, as Affecting the Accuracy of Integration for Displacement," by W. F. Durand, was an excellent supplement to the paper by Mr. Taylor, and proved of much interest to the designers present. He also gave some interesting notes on the relation between reduced and true wetted surface, and presented a number of tables carefully prepared for the use of naval constructors.

"An Experiment Test of the Armored Side of the U. S. S. Iowa," by Albert W. Stahl, U. S. N., was a good descriptive article of the most recent development in armor for our battleships and American armor plate possibilities in manufacture. A number of plates and diagrams illustrative of the tests of this armor were presented, and the excellence of the output of the Bethlehem Armor Works was greatly complimented.

THE ABANDONED MOONLIGHT AND KENT.

(ILLUSTRATED)

Through the courtesy of Capt. W. S. Mack, owner of one of the vessels, in furnishing photographs of the weird scene, THE RECORD is enabled to present a view of the stranded schooners Moonlight and Henry A. Kent, as they appeared shortly after going ashore at the mouth of the Chocolay River, on the south shore of Lake Superior, in the gale of September, and before the storm had abated. The black spot in the right distance shows all that remained of the steamer Charles J. Kershaw, which had the schooners in tow, and which met with destruction by striking Chocolay Reef. The day before this photograph was taken the Kershaw's crew of 13 men had been taken off by Capt. H. Cleary, and his brave crew of the Marquette life-saving station, of whom we shall have more to say in an early issue of THE RECORD. The rescue was one of the most thrilling and heroic in the annals of the life-saving service on the Great Lakes.

At the mouth of the Chocolay River, which empties just beyond the bushes at the left of the picture, is a submerged pier foundation. The Moonlight rests on this submerged mass of stone, which is just under her foremast, and which has held her steady since the storm. The Kent is nearer the middle foreground. As shown by a photograph now in the possession of Capt. John Warner, manager of the Kent, and taken several days after the photo here reproduced, the Kent's stern was thrown farther up on the shore by the heavy seas. The rapidly shifting sand has accumulated around both vessels until they can be easily reached from shore without wetting the feet.

The wrecking operations on these vessels are worthy of especial mention. The boats were immediately abandoned to the underwriters, Captain Mack being fully cognizant of the treacherous nature of the shore in this locality, and the probable futility of getting the boats afloat again. Before the gale had abated the underwriters had closed a contract with the Grummonds to get the boats off for $3,500, "no cure, no pay." The Grummond tugs worked a few days on the boats with very little in the way of tangible results, and threw up the contract, explaining their reasons for so doing, which were the prevalence of quicksands in this locality. The underwriters, appreciating the position of the Grummonds, gave them another chance at the wrecking on a new contract of a like contingent character, the remuneration in the event of success being $9,500. The Grummonds renewed the attack, but after working several days longer, were obliged to give it up. Then Capt. B. B. Inman was asked to see what he could do, on the some terms. He took the tug Record and five others of his fleet to Marquette on November 1, and on the morning of the 2nd the five tugs went out to the wrecks and tried to dredge out a channel with their wheels faster than the quicksands could fill it up. The tugs worked all day in this manner, these tactics being the only possible resource, and in the evening Capt. Inman, convinced that there was no use in spending any more time and money, dropped the work, and left with his tugs next morning. The underwriters will probably adyertise the wrecks for sale, but little will be realized from them.

A YACHT ELEVATOR.

AN elevator worked by electric power has recently been built for the Ottawa Canoe Club, Ottawa Ont. Owing to the great rise of the Ottawa River every spring, the boat-house is situated a good height above the water level the greater part of the year. The transfer of the boats from the house to the water and *vice versa*, was thus extremely difficult, and to obviate these drawbacks there has been erected a framed gangway, with a skeleton car, an ordinary worm-geared hoisting drum, and a 3-kw. 500 volt Edison motor is belted to a counter-shaft, that is in turn belted to the shaft carrying the worm. The car stops automatically at the top and bottom of the alloted course.

THE BATTLESHIP INDIANA.

(ILLUSTRATED)

The battleship Indiana, which made such a satisfactory showing on her trial trip, which took place recently, is the first of four big battleships that have been building for the government. Her keel was laid with that of her sister ship, the Massachusetts, by the Cramps, of Philadelphia, in 1891. A third vessel of the same type, the Oregon, was laid down in San Francisco, and these three, with the still larger ship, the Iowa, were launched in 1893. Each of the quartette measures about 10,000 tons, about the size of the British ship Camperdown, which sunk the Victoria off Tripoli in 1893. There are eleven British battleships of 11,000 tons and over, eight of them of the Royal Sovereign class, measuring 14,500; but the Indiana and her sisters are supposed to represent a class of vessels which are more easily manœuvred and sufficiently large to cope with the largest battleships of other countries.

The Indiana is known as a coast line battleship. Her length on the water line is 348 feet, her molded beam is 69¼; her draft, 24; and her normal displacement, 10,231 tons. The contract price for hull and machinery was $3,020,000. She has twin screws operated by triple-expansion engines of the direct acting, inverted cylinder type, which gave her a speed on her trial trip of 15.61 knots per hour, winning $50,000 premium for her builders.

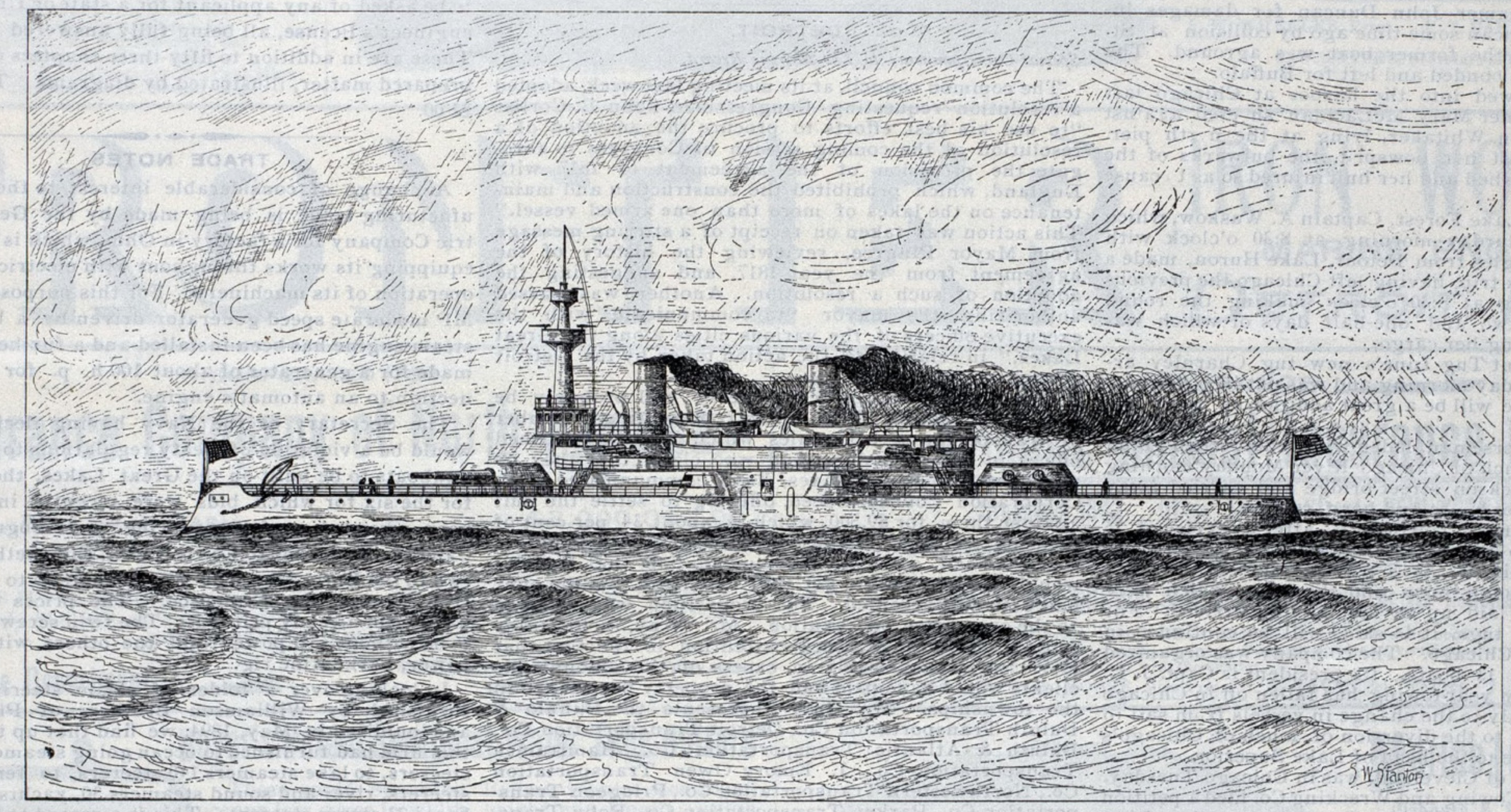
The Indiana's armor is unusually heavy, even for a vessel of her class. The water line belt is 18 inches thick, extending three-fourths of the distance around the hull, and sweeping around the bases of the redoubts forward and aft. The redoubts are 17 inches thick and reach 3½ feet above the main deck, to protect the mechanism by which the turrets are revolved and the guns loaded. The deck is made of 2¾ inch steel plates and heavy protective decks are provided forward and aft of the water line armor belt, sloping at the sides to 4½ feet below the water line.

The main battery of the Indiana is capable of throwing, at a single discharge, projectiles weighing 6,800 pounds, with a total energy of 210,000 foot-tons. Her 13-inch guns can perforate 22 inches of steel at a distance of one mile. Beside all this torpedo tubes are so arranged as to give an all around fire with 18-inch torpedoes, each charged with 250 pounds of explosive. The complete armament consists of four 13-inch, eight 8-inch and four 6-inch rifles, comprising the primary battery; and a secondary consisting of twenty 6-pounder and six one-pounder rapid firing guns, and four Gattling guns. The six torpedo tubes are arranged, one at each end of the hull and two on each side.

When the Indiana was building it was predicted that she would roll badly. On the contrary, it is found that she is one of the steadiest ships in the navy.

The Indiana will doubtless be formally transferred to the government by the Cramps on the 20th inst. Capt. Robley D. Evans will command her.

The accompaning illustration is reproduced by the courtesy of Seaboard. It may not be out of place to state that this type of picture is the same that appear with added decorative effects, in "American Steam Vessels," issued by the publishers of that paper."



THE BATTLESHIP INDIANA.

OBITUARY.

MR. A P KILGANAN.

Mr. A. P. Kilganan, who for twenty years was an engineer in the service of the Dominion government, died recently at St. Michael's Hospital, Toronto, aged 43. Up to July last deceased resided at Little Current, Manitoulin Island. He was born in Montreal in 1852 and became government engineer at the age of twenty-three. He had charge of many important public works in the district extending from Collingwood to Sault Ste. Marie. Among them were the Collingwood and Meaford breakwater, the government docks at the Sault, Hilton, Cockburn and Neebish Rapids. He also superintended the deepening of the channel at Little Current, and when the government declined to adopt his plan of laying a cable between Manitoulin and the mainland, he undertook the work at his own expense and carried a cable to Nairn from Little Current, thus furnishing the only means of communication with the islanders in the winter. He established telephone communication all over the island. He obtained from the government a charter for the construction of a Manitoulin railway and had already cleared and surveyed 70 miles of route when illness compelled him to relinquish work and go to the hospital. He leaves a wife but no children.

CAPT. JACOB HANSON.

Capt. Jacob Hanson died last week at his home in Sevastopol, Wis., from the effects of a fall from a wagon a few days previous. He was born in Farsun, Norway, in 1823, and came to America in 1850, settling at Sevastopol two years later. He was for many years a tug captain and was also chief officer of one of the Hart steamers for several seasons. He gave up sailing seven years ago, and has since lived quietly on his farm. Mrs. Hanson and six children survive him.

THE Chief of the Naval Bureau of Ordinance asks for $6,457,984 for the year ending June 30, 1897. The Chief of the Bureau of Yards and Docks has cut down the estimates of the commandants of the various navy yards and stations from $9,296,891.85 to $2,124,149.82, for which he asks an appropration for the year 1896-97.

THE BELLEVILLE BOILER.

The Belleville water-tube boilers continue to make steady progress, notwithstanding the severe tests that have been and are still being applied to them. It is found, that, as the men become used to the manner of stoking, much improvement is noticeable in the amount of coal used, the quantity per indicated horse-power declining in some cases from 2.5 lbs down to 1.9 lbs. The English Government has decided to fit these boilers to several other warsh ps, as well as the Terrible and Powerful, the second-class cruisers, Arrogant, Furious, Gladiator and Vindictive. The machinery of each of these cruisers is to develop 10,000 I. H. P., and each will be supplied with eighteen of these boilers, fitted with tubes 4.5 in. in diameter, the collective grate area being 867 sq. ft, and the heating surface 26,000 sq. ft. The boilers will work at a steam pressure of 300 lbs. per square inch, which will be reduced by the Belleville valve to 250 lbs. at the engine The Austrian Government, who are now building three battleships of the same type, with precisely the same machinery, have decided to fit one, the Buda-Pesth, with the Belleville boilers. The machinery is to develop 8,500 H. P. under natural draught, and these water-tube boilers will have a collective grate area of 720 sq ft., and a heating surface of 22,500 sq. ft.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, November 9, 1895.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Albany	.....	10,000	110 000	.....	10 000
Baltimore	561 000	292 000	224 000	84 000	.....
Boston	431 000	254 000	7 000	.....	.....
Buffalo	2,453,000	423,000	91,000	286 000	1 428,000
" afloat	.....	.....	.....	.....	.....
Chicago	19 854 000	1 201.000	437 000	219,000	82 000
" afloat	.....	.....	.....	.....	.....
Cincinnati	45,000	5 000	44 000	49 000	129 000
Detroit	444 000	18 000	39.000	11,000	3,000
" afloat	.....	.....	.....	.....	.....
Duluth and Superior	5,386.000	.....	259 000	124 000	743,000
" " afloat	.....	.....	.....	.....	.....
Indianapolis	157 000	44 000	1 000	.....	.....
Kansas City	1 319 000	5 000	64,000	21.000	.....
Milwaukee	600 000	.....	15 000	75 000	63,000
" afloat	.....	.....	.....	.....	.....
Minneapolis	14 179 000	.....	485,000	89,000	178,000
Montreal	269 000	1,000	36 000	3 000	7,000
New York	4,577 000	731 000	1,540,000	25 000	.....
" afloat	291 000	30,000	45,000	.....	49 000
Oswego	34 000	50 000	.....	.....	110 000
Peoria	101.000	18.000	410 000	4 000	2 000
Philadelphia	191,000	224 000	265.000	.....	.....
St. Louis	1,219 000	17 000	542,000	17 000	2,000
" afloat	.....	16 000	.....	.....	.....
Toledo	965.000	126 000	238,000	153,000	.....
" afloat	.....	.....	.....	.....	.....
Toronto	33,000	.....	11.000	.....	22.000
On Canal	840 000	208 000	82 000	.....	421,000
On Lakes	2,987 000	954 000	344 000	.....	591.000
On Mississippi	.....	.....	.....	.....	.....
Grand Total	56.936.000	4 627,000	5.289.000	1,160 000	3,840,000
Corresponding date 1894	81,220,000	2 638 000	9 065 000	449,000	3 993.000

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

The L. M. & L. S. Transportation Co.'s steamer City of Traverse left here Monday noon and Jay Gould Wednesday night with full loads of merchandise for Lake Superior on their last round trip this season. The company's steamer City of Duluth will be their last boat from this port to Lake Superior this season. She will leave on Saturday and will go into winter quarters at Duluth.

Chief Engineer W. J. McClure, of the Graham & Morton Co.'s steel side-wheel steamer City of Chicago, was over here Tuesday from Benton Harbor, where he had just completed the laying up and fitting out the machinery of the steamer ready for next season. He is going to his home at Detroit, and will return to Chicago about the middle of December to superintend the putting into the company's steamer City of Louisville a new fore-and-aft compound engine, 20 and 40 by 30 inches, built by the Montague Iron Works, Montague, Mich., and a new Scotch boiler, 10½ by 12, to be allowed 140 lbs. steam. The work is to be done at the Chicago Ship Building Co.'s dry dock.

The Dunham Towing and Wrecking Co. have fitted out and put in commission their tugs Bob Teed, Robert Tarrant and Robbie Dunham, which have been laying idle a good part of the season.

M. M Drake, manager of the Lackawanna Line was in Chicago Tuesday

The schooner Twin Sisters has been libeled by the owners of the steamer John Duncan for damages inflicted on the Duncan some time ago by collision at St. Clair river, when the former boat was aground. The Twin Sisters was bonded and left for Buffalo.

While being towed into the harbor at Chicago last Friday the schooner Mary McLachlan sheered against the steamer Byron Whitaker, lying at the north pier. The schooner lost her bowsprit, the bulwarks of the steamer were crushed and her hull injured so as to cause a slight leak.

The schooner Lake Forest, Captain A. Waskow, which arrived here Saturday morning at 8:30 o'clock with lumber and shingles from Detour, Lake Huron, made a remarkably quick trip, having left Chicago the previous Saturday evening at 8:30 o'clock, making the round trip in 6½ days, two and one-half days of which was occupied in loading her cargo.

The Independent Tug Line's new tug Charnley arrived here on Friday morning and was put in commission at once. She will be a great addition to their fine fleet of tugs.

The steamer Norseman, laden with cedar, when going up the south branch of Chicago River Monday morning collided with Jackson street bridge and carried away the top of her pilot house and her foremast.

The Vessel Owners' Towing Co., after a service of 25 years on Chicago River, virtually went out of business last Thursday night. At 5 o'clock the regular tugs were put out of commission and the boats which were on the lake were laid up as fast as they arrived. For the present two tugs, it is said, will be continued in service at South Chicago. The company was organized in 1871 and had 13 boats. Its president is Capt. J. L. Higgie. Year by year towing has fallen off in Chicago River owing partly to the change in vessels from sail to steam and partly to the diversion of much of Chicago's marine commerce to the head of Lake Superior.

C. E. Benham, of Cleveland, was in Chicago Tuesday.

The Dunham Towing and Wrecking Co. filed a petition in the United States District Court last week, asking for authority to turn over to the families of the men killed, and for the benefit of those injured and the damage to buildings caused by the explosion of the tug T. T. Morford, the wreck of the boat, which is even asserted by the company to be worthless. The petition is based upon the statute of the United States limiting the liability of the owner of a vessel in the case of the loss of freight or destruction of same to the amount of the value of the freight and of the value of the boat. The language of the petition indicates, attorneys say, that the Dunham company expects the statutes to be construed as to limiting the liability for the loss of life and damage from personal injuries and to the property of others to the value of the remains of the tug.

WILLIAMS.

BUFFALO.

Special Correspondence to The Marine Record.

Buffalo Creek was never in such poor shape as it has been during the past week. Beside the low stage of water, the heavy shipments of grain had blocked the elevators by Sunday, vessels being delayed three or four days before they could be unloaded. Nearly all of the canal houses are filled, but the railroad elevators have continued to work. The situation Tuesday was a trifle easier, and the water had also risen slightly, but by Wednesday the block was worse than ever.

The Bennett elevator, which is situated on Buffalo River at the junction of the Evans Ship Canal, is for sale. This elevator has a capacity for 800,000 bushels and also has excellent facilities for unloading vessels on the river front, by means of two legs, one stationary and one movable. The frontage on the river is about 240 feet, with the privilege of vessels unloading there to overlap the adjoining dock. On the side facing the Evans Ship Canal the frontage is about 125 feet, which allows plenty of room for the unloading of canal boats, without interfering with vessels that are lying on the river side. It has railroad connection through the D. L. & W. R. R. and is equipped with all the modern appliances for the loading of cars. It is in good running condition and has been in operation throughout the season.

The water at Tonawanda is very low in the canal and creek, and laden boats are getting aground daily.

Messrs. Byrne and Maher, of the Buffalo council, have been appointed a committee to go to Washington to urge Congress to extend the breakwater. They were instructed to ask that it be extended north from a point 300 feet north of the end of the present pier for 2,200 feet, thus protecting the frontage from Georgia to Jersey street.

Shipments of anthracite coal for the season to November 1 were 1,962,325 net tons, as compared with 1,953,355 tons in 1894, and 2,189,707 tons in 1893. Shipments to Lake Superior were about 430,168, to Lake Michigan about 1,231,245, and to Lake Huron about 43,000 tons. This does not include about 100,000 tons loaded at Tonawanda and not reported at the custom house. The remainder was shipped to Lakes Huron and Erie.

A marine paper recently printed what it calls a "A Few Sermons on Transportation," being a few of the sayings of those who read papers at the recent Deep Waterways Convention at Cleveland. It appears from these extracts that nine-tenths of the speakers do not understand the canal part of the question, and to get a clear view they should begin with a practical not theoretical knowledge of the situation in all its bearings.

DETROIT.

Special Correspondence to The Marine Record.

The common council, at its meeting last week, adopted a resolution requesting Congressman John B. Corliss "to use his best efforts to procure the adoption of a resolution at the coming session of Congress to abrogate the provision of the agreement of 1817 with England, which prohibited the construction and maintenance on the lakes of more than one armed vessel." This action was taken on receipt of a stirring message from Mayor Pingree, reviewing the history of the agreement from the year 1817, and suggesting the adoption of such a resolution. Another was passed authorizing the mayor "to communicate with the executive officers of the various cities along the Great Lakes," in relation to the action taken by the Detroit council.

The vessel taxation controversy will probably be settled very soon. R. T. Gray, representing a number of transportation companies which have established offices in the townships, and who claim that they do not have to pay city taxes, have communicated with Corporation Counsel Speed, offering to settle the suit against them for $9,500, which is about 34 per cent of the sum claimed. Judge Speed reported the situation to the council, with the recommendation that the city would be doing well to get that much and that the offer had better be accepted. The proposition was referred to the committee on taxation. Mr. Gray, in his proposition, called Judge Speed's attention to the fact that $9,500 was considerably in excess of the amount his clients would have paid had the property been taxed in the townships. Mr. Gray represents the Buffalo & Duluth Transportation Co., Detroit Transportation Co., Duluth & Atlantic Transportation Co., Hamtramck Transportation Co., J. Emory Owen Transportation Co., Northwestern Transportation Co., Pridgeon Transportation Co., Parker Transportation Co., Roby Transportation Co., Wallace & Cunningham Transportation Co., State Transit Co., Swain Wrecking Co. and Farwell Transportation Co.

A competitive examination for the post of marine engineer for the marine branch of the Detroit postoffice will be held here November 30. Applicants must all be citizens of the United States, and over 18 years of age. They must file their application before November 23. The position pays only $50 per month, so the rush will not be serious.

ASHTABULA HARBOR.

Special Correspondence to The Marine Record.

Col. Jared A. Smith, U. S. Engineer in charge, has instructed Carkin, Stickney & Cram, the contractors, to dredge the channel here from the shore line to the swing bridge, about 1,500 feet, to a depth of 20 feet. This will reduce by $15,000 or $20,000 for the city and the railroad companies the amount they must spend to deepen the inner harbor to a corresponding depth. The council will probably not have to issue more than $10,000 of the $15,000 bonds for harbor improvement authorized by the voters on Tuesday of last week. Dredge No. 12 has been brought here to assist in finishing up the work, both dredges being able to work in the river when the weather is too rough to allow them to work outside. The firm will bid on the work from the swing bridge to the head of navigation, when the contract is let jointly by the city and the railroad companies. If they are successful they will bring a third dredge here.

Receipts of ore at this port for October were 284,203 tons, the total for the season to Nov. 1, being over 2,300,000 gross tons.

Hingston, Rogers & O'Brien's dredge General Meade, of Buffalo, is at Conneaut, and will remove a bar from the mouth of the channel. There is 15 feet over the bar now. When this is done the dredge will remove a part of the old east pier, using the stone in the new work. This firm will then do enough dredging to make the channel 200 feet wide up to the first bend, and it is thought that a portion of the inside of the second bend will be removed to give free access to the proposed 800-foot dock.

THEORY AND PRACTICE OF STEAM ENGINEERING

The American Industrial Publishing Co., of Bridgeport, Conn., have just issued an invaluable little manual entitled "Modern Examinations of Steam Engineers; or Practical Theory Explained and Illustrated." The author is Mr. W. H. Wakeman, whose position as instructor in steam engineering at the Boardman Manual Training School at New Haven, Conn., and twelve years of active membership in the National Association of Steam Engineers, with his position as instructor in No. 11, a sturdy branch of the national organization, fully qualify him for the work of compiling such a book. The author, being himself a practical engineer, well knows the wants of the working engineer, and has put into this book such knowledge and information as is best adapted to their use, making it altogether a most complete and comprehensive guide for the busy worker in the engine room, boiler works and machine shops. There are 300 questions in the book such as are likely to be asked of any applicant for a state or United States engineer's license, all being fully answered in the text. These are in addition to fifty-three chapters of carefully prepared matter, illustrated by diagrams. The price is $2 00.

TRADE NOTES.

A change of considerable interest to the shoe manufacturing trade is being made by the General Electric Company for a factory in Ohio, which is engaged in equipping its works throughout with electricity for the operation of its machinery. For this purpose a 75 h. p. MP moderate speed generator driven by a belt from a steam engine has been installed and a further provision made for a generator of about 100 h. p. for direct connection to an automatic engine.

The Secretary of the Navy having decided that it would be a violation of treaty regulations to permit any gunboats to be built on the Great Lakes, the contracts for the six for which bids were recently invited have been awarded as follows: One to Dialogue & Sons, Camden, N. J., one to Lewis Nixon, Elizabethport, N. J., two to the Bath, Me., Iron Works and two to the Union Iron Works, San Francisco. The prices of the bids have been already printed. The twin screw vessels are to be without sail power and the others with full sail power, barkentine rig.

In looking over a folder of steam steering engines furnished by Williamson Brothers, of Philadelphia, and publised in May, 1894, we find that up to that time this firm had furnished to ocean going steamers 98 steam steerers, to lake steamers 140 steerers, to ferryboats 40 steerers, river and sound steamers 30, yachts 20 and tugboats 23 steam steerers. This is a record to be proud of when considered that this firm has been very busy for the past six months, the number of steerers for that period not being before us. At the present time this concern has a large number of steering engines in course of construction.—Marine Journal.

A CARD FROM MR. BEESON.

OFFICE OF BEESON'S INLAND MARINE DIRECTORY,
CHICAGO, ILL., Nov. 12, 1895.

Editor Marine Record:

DEAR SIR:—Through some parties, or by some means, an impression has been conveyed to a number of the advertising patrons in, and subscribers to my Marine Directory, that the work was or would be discontinued. Owing to a recent death in my family, my annual canvass has been somewhat delayed. It may be possible that from this fact this impression has been created, but I rather think that it comes from people who are inimicable to the interest of this publication. So as a matter of general interest to the lake marine, and as a favor to, as well as in justice to my directory, I wish that you would give this letter a place in your columns, that my friends may know that the work will come from press May 1st, 1896, as has always been the custom, and that no time or expense will be spared to make the publication all that it should be. Also that new and valuable features will be added to its contents, and that I hope to be able in the near future to, as usual, call upon every supporter of the work and to have a continuance of their favors of the past. In this connection I would state that I shall canvass Cleveland, beginning on or about Monday, November 18th.

I am yours respectfully,

HARVEY C. BEESON,
Publisher Beeson's Inland Marine Directory.

WILLIAM L. BROWN, President.

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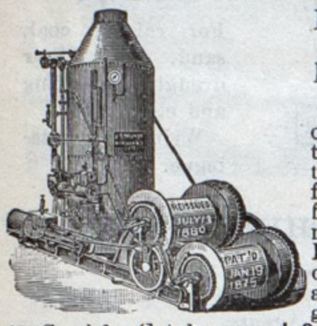

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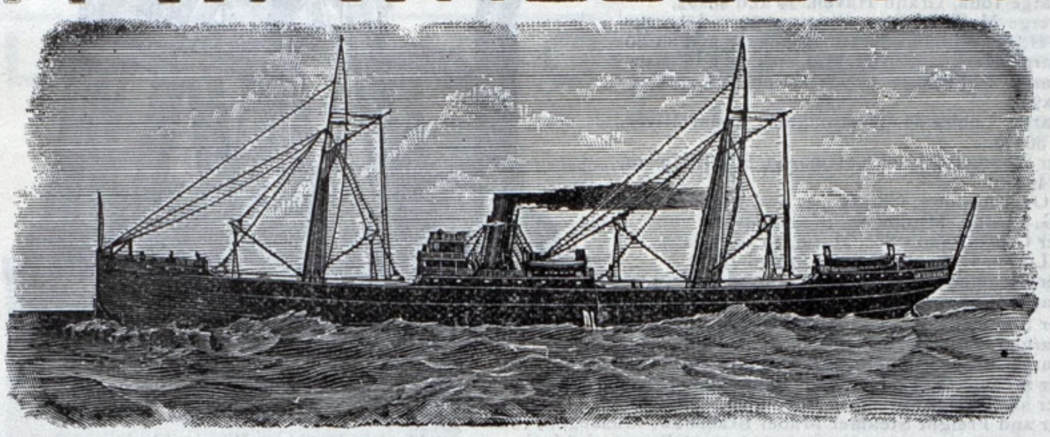

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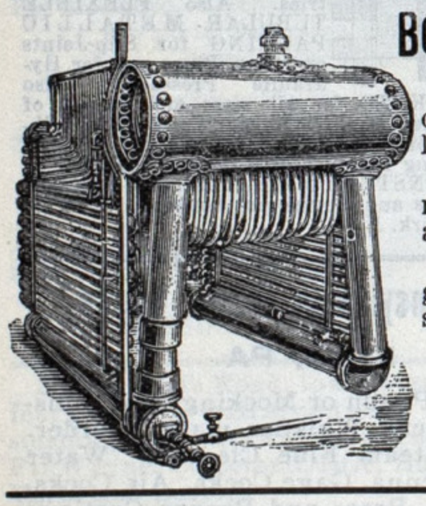

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Baby & Dale, St. Clair, Mich.
N. C. Alten, Lorain, O.
A. F. Harrington, Conneaut Harbor, O.
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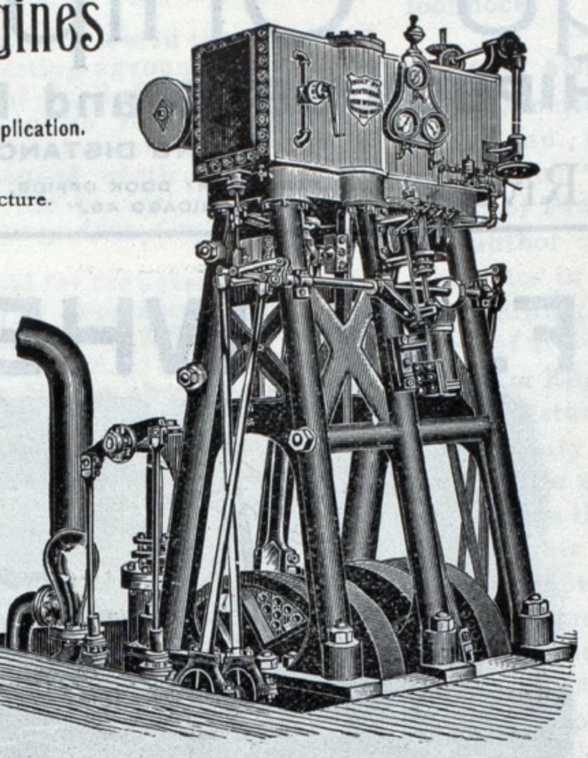

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Steam Barge M. T. Greene, Chicago, 20 and 36x36.
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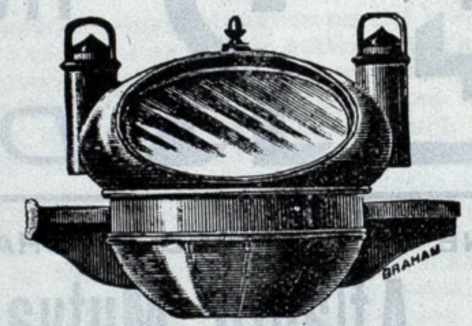

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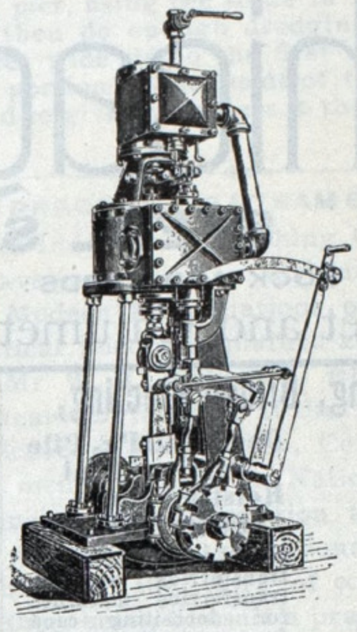

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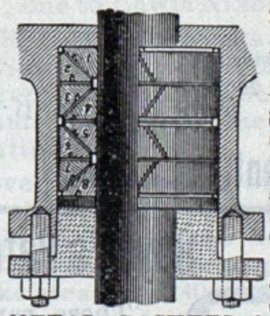

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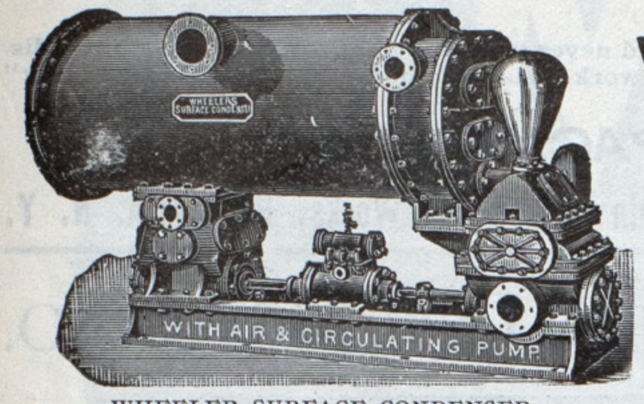

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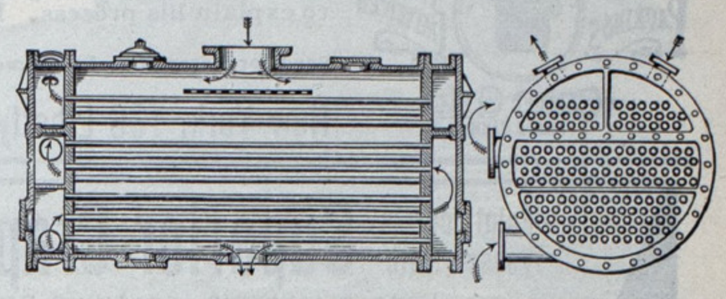

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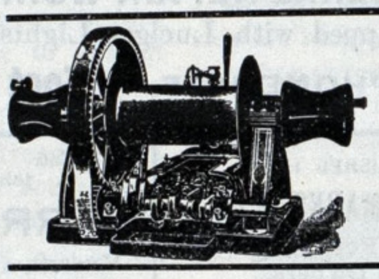

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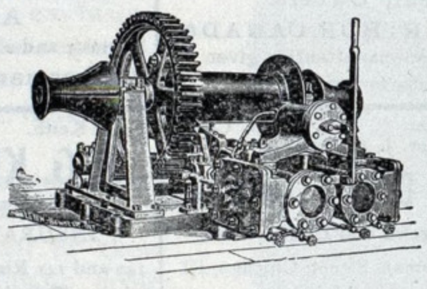

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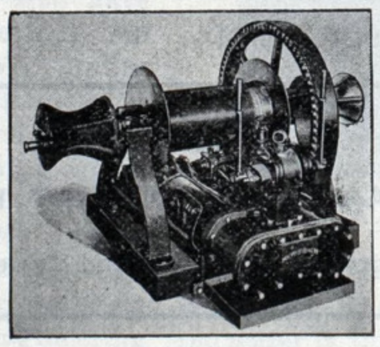

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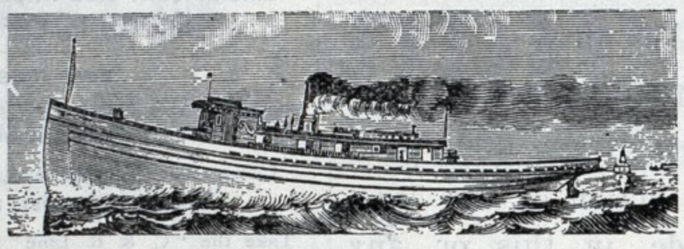

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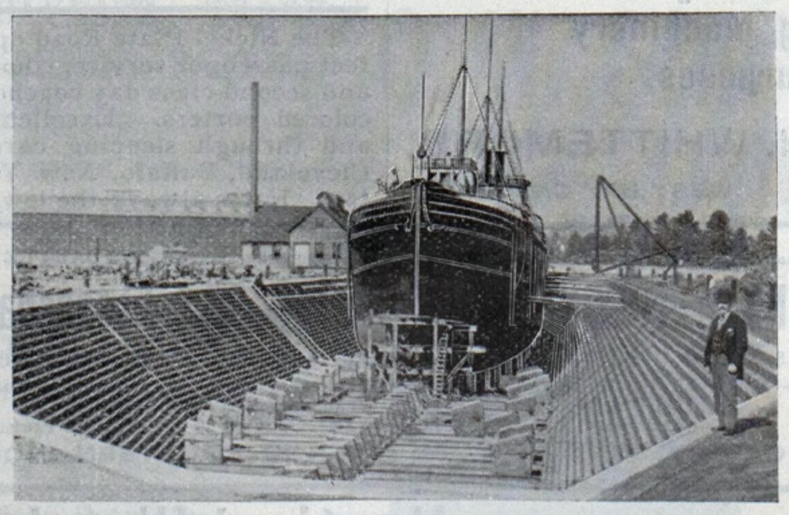

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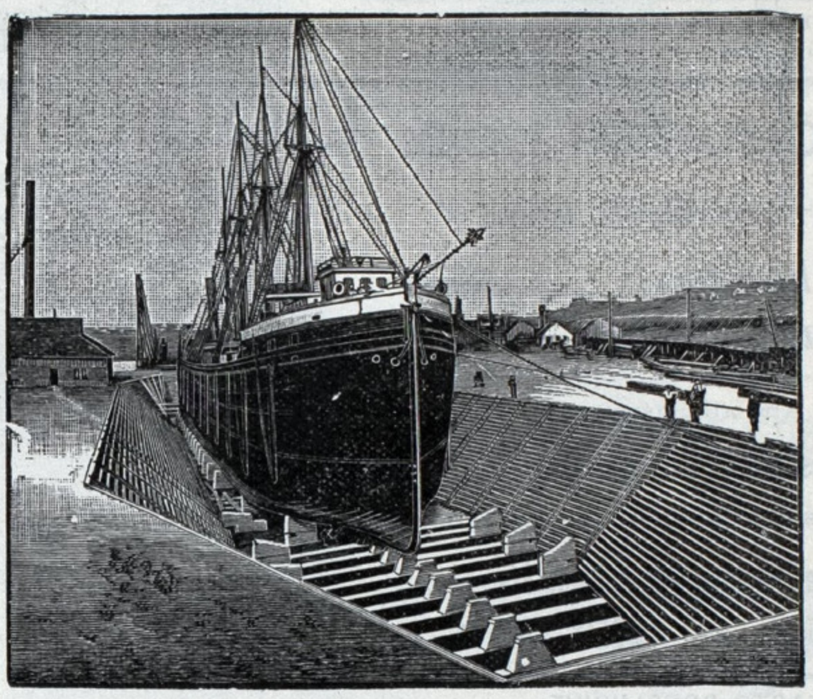

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